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Anchoring a Thatch Roof Is a Four-man Job—Stone walls of crofters' homes in the Hebrides (Bulletin No. 5) last for generations but thatch must be renewed at intervals. A fishing net keeps straw from blowing away in island gales. Slate is replacing thatch on many roofs and the old "black houses" of native stone are gradually giving way to modern structures, including wood "prefabs" imported from Sweden.

MARGARET SHAW CAMPBELL

In 1920 Syria was placed under French mandate. In 1925 Damascus joined with Syria's largest city, Aleppo, to form a state under limited French control. Syria won full independence, however, only in 1941. Subsequently it gained United Nations recognition.

The population—3,381,000 by United Nations estimate as of 1952—consists mainly of Arabic-speaking Moslems, but includes members of various Christian sects. The commercial and intellectual life of the nation is concentrated in five cities of more than 100,000 population—Aleppo, Damascus, Homs, Hama (illustration, back cover), and Latakia.

Damascus, a home today for 335,000 persons, is among the oldest living cities. Located on the edge of an oasis between the Anti-Lebanon range on the west and the Syrian Desert on the east, it has stood for thousands of years at the crossroads of the Near East.

Luring nomad traders, it became the market of the desert. The Bible mentions its "wine of Helbon" and its wool. Its dried fruits and textiles were highly cherished. Its renown grew further out of the skill of its armorers who for centuries fashioned the famous "Damascene blade." The art perished when Tamerlane carried off the swordsmiths in 1401.

But other industries lasted. Damascus is still noted for its leather products, gold and silver filigrees, and wood and metal inlaid work. The city has given its name to the reversible-figure fabric, damask.

A cultural center, Damascus is the site of the Syrian University as well as native and European schools. It counts its mosques in the hundreds. Chief among them is the Great Mosque where the faithful daily touch their foreheads to soft prayer rugs as they bow toward Mecca.

Licorice Land—Eighty-five miles north lies Homs, where 240,000 people live in a fertile area bounded by gardens and orchards. Homs played a part in the return, late in February, of Hashem Al-Atassi as President of Syria. Several factions consulted there over formation of the new government.

One hundred miles north of Homs stands Aleppo, which for ages has seen history repeat itself in a long series of wars. Aleppo, counting 360,000 inhabitants, is a city of dusty, narrow streets and low white buildings, studded with domes and minarets. Its dominant feature is a great central hill capped by a ruined citadel.

Aleppo's bazaars are among the most picturesque in the Near East, cluttered with carpets, bright piece goods, and hand-hammered copper.

But more important to many an American boy is another fact of Aleppo's economy: It bales candy-flavoring licorice root, which grows wild along the banks of the Euphrates River and is locally considered a pest.

References—Syria is shown on the National Geographic Society's maps of Bible Lands and Southwest Asia. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For additional information, see "Syria and Lebanon Taste Freedom," in *The National Geographic Magazine*, December, 1946; "Bombs over Bible Lands," August, 1941; "Change Comes to Bible Lands," December, 1938; and "Secrets from Syrian Hills," July, 1933.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, February 23, 1953, "Damascus Steel Work Surpassed by Modern."

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UMI

MAYNARD OWEN WILLIAMS, AND W. ROBERT MOORE, NATIONAL GEOGRAPHIC STAFF

Industry at Aleppo—Cotton-mill hands (left) unreel miles of thread from bobbins, then stretch it on upright poles to bleach and dry in the sun. Workers (right) tamp licorice root into bales for shipment to America, where it will flavor candy, tobacco, and medicine.

Bulletin No. 1, March 22, 1954

Syria's Freedom Path Proves Rocky

Syria, one of the world's newest republics and oldest lands, labors to stabilize its free government. The task is not easy, as many another young republic has found.

In the eight years since the last foreign troops departed its soil, Syria has looked often to the United States for a pattern. In 1953 its voters approved an American-style constitution. But strongly divergent views persist within the eastern Mediterranean state's borders. Again in 1954 internal disputes upset the political balance as they did in 1949 and 1951.

Syria matches North Dakota in area but has five times as many inhabitants. It shares the rising-sun coast of the Mediterranean with Turkey, Lebanon, and Israel. Largely desert, it lives chiefly by grazing and by the agriculture of its fertile northern reaches watered by the Euphrates River.

Damascus Holds Ancient Fame—Syria's capital, Damascus, was ruled by Egyptians and Hittites before it became part of an independent kingdom a thousand years before Christ. Later the city knew a succession of conquerors—Babylonians, Persians, Greeks of Alexander the Great, the Ptolemies, Mohammedans, and Crusaders. After World War I it was occupied by British and Arabs.

dust. Finally, after we had photographed them, we shouted and honked our horn. They got up leisurely and moved to the side of the road and lay down again to finish their nap."

Fever Threat Banished—Kruger National Park is now open to visitors the year around. Prior to 1950 it was closed during the summer season, November to May, because of the malaria menace. Park staff parents even packed their children off to healthier regions for the six months. Daily DDT sprayings in recent years have conquered the mosquito.

Spring and summer droughts still present a major problem, however. Grasslands provide good winter grazing, but offer only bare subsistence in the dry months. It is then that hungry herds migrate off the reserve onto farmlands, provoking the wrath of farming natives and settlers.

The huge game sanctuary is named for Paul Kruger, who initiated the project in 1898 when he was President of the Boer Republic of Transvaal. Kruger foresaw that hunting parties, unconcerned with conservation, would denude South Africa of its rich store of animal and bird life.

References—Kruger National Park is shown on the Society's map of Africa. For further information on the region, see "Safari Through Changing Africa," in *The National Geographic Magazine*, August, 1953; "Roaming Africa's Unfenced Zoos," March, 1950; "British Commonwealth of Nations," April, 1943; and "Under the South African Union," April, 1931.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, November 17, 1952, "Transvaal Gold Waste May Supply Uranium."

Thirst Is Universal—When water holes dry up in summer drought, animals such as these gnus and zebras in Kruger National Park migrate to adjacent farmlands, damaging crops. To prevent this, the Union of South Africa will spend $1,400,000 to build fences, increase water holes, and improve grasslands on its many game reserves.

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Bulletin No. 2, March 22, 1954

Africa's Kruger Park to Be Fenced

Because civilization's frontiers are advancing in Africa, the world's largest game reserve must soon be partly fenced.

For years settlers in the Transvaal lowlands in the Union of South Africa's northeast corner have nursed a grievance. Kruger National Park's 1,000,000 protected "cattle," they say, referring to wild beasts of every description, trample their farmlands and destroy their crops. As a result, the government plans to build a sisal fence along the park's southern edge.

King-size King Ranch—Fencing Africa's unfenced zoos would be a task comparable to fencing our New England States. There are well over 100 game reserves on the continent. Kruger National Park alone is as large as Massachusetts. It is six times the size of the vast King Ranch in Texas and supports twelve times as many animals.

On palm-dotted plains and dense thornbush veld are found all the breeds of African beasts and birds found in American zoos and alphabet books, and many more. They range from aardvarks and 18 varieties of antelope to zebras. They include baboons, buffaloes, cheetahs, crocodiles, elephants, giraffes, hippos, leopards, and lions.

There are crossword-puzzle creatures such as the duiker, eland, impala, inyala, klipspringer, kudu, tsessebe, and wildebeest, or gnu. There are honey guides, hoopoes, and stalking secretary birds among more than 320 species of bird life.

Bordering Portuguese Mozambique for 210 miles north to south, Kruger Park is South Africa's biggest tourist attraction. Almost 100,000 visitors toured the park in 1953.

Visitors Caged, Animals Free—Unlike animal residents, visitors to the park are restricted in their movements. They may drive the 1,200 miles of roadway but may not leave their cars except at certain specified points. Speed is limited to ten miles an hour to protect jaywalking beasts so accustomed to automobiles that they virtually ignore them.

"Don't bathe; there are often crocodiles in the smallest pools . . . Don't become alarmed if lions stand and stare at your car . . . The lion's nose tells him at once that a car is not good to eat . . . Don't imagine because lions are passive . . . that you can go up and pat them."

Such are routine instructions. Automobiles must keep to the highway. Travel by foot, horseback, or bicycle is forbidden as is departure from rest camps after dark. A force of 100 rangers patrols the reserve, guarding the safety of humans and the well-being of animals.

Dr. Gilbert Grosvenor, President of the National Geographic Society, toured Kruger National Park with Mrs. Grosvenor as part of a 30,000-mile African safari in 1952. Writing of the visit in the August, 1953, *National Geographic*, Mrs. Grosvenor described the lions:

". . . we drove almost over two blasé lions stretched out in the road. They had evidently just finished breakfast—perhaps on one of the herd [of antelopes] we had just seen—and were too lazy to get up. They licked their chops and paws, looked at us superciliously, and rolled over in the

Whenever possible, the Hindu dead are cremated at holy places on the banks of the Ganges and their ashes are cast upon the water.

Among the very sacred cities beside the river are Banaras (Benares), Allahabad, Hardwar, and Gangotri. Holiest is Banaras, the Hindu counterpart of Mecca of the Moslems. Banaras and the Ganges appeal to India's Hindus as do Jerusalem and the Jordan to Christian pilgrims.

Crescent of Temples—Some 1,500 gold-roofed temples crowd the sloping banks of the Ganges at Banaras, forming a jumbled crescent in a curve of the wide, sweeping river. Daily at dawn, most of the city's 400,000 residents and thousands of pilgrims crowd the *ghats*—steps descending into the river from the temples lining the bluff on which the city is built. The ghats stretch for more than two miles along the shore.

Friends and relatives watch the cremation ceremonies. Standing knee-deep in the water, pilgrims pray to their personal favorites among the 3,000,000 deities in the Hindu pantheon.

A hundred miles upstream is Allahabad. It is another holy of holies by virtue of its position on the point of land formed by the junction of the Ganges with another sacred river—the Jumna.

On the hallowed strip between the rivers Brahma, the Hindu creator, prepared himself for the task of constructing the universe. Vishnu, the preserver, and Shiva, the destroyer—the other members of the Hindu trinity—are believed to have gained their powers by penance at this river junction.

To Allahabad this year between January 14 and March 4 came millions of faithful to celebrate the Kumbh Mela. This festival comes to the Ganges-Jumna junction once every 12 years. At its rites pilgrims bathe 10 different ways and present 10 kinds of gifts to gain purification.

Ticket to Heaven—Hindu astrologers had proclaimed that this year's Kumbh Mela would include the most auspicious hours for bathing in 144 years. Several hundred pilgrims, killed and injured in a crush of 4,000,000 penitents on February 3, are regarded as fortunate souls. Death during the Kumbh Mela is thought to assure direct passage to heaven.

Thousands of pilgrims annually make the hard journey to Gangotri, in the Himalayas near the river's source. The town is a goal for Hindus who have committed particularly grievous sins. They must walk north along the left bank and return by the right bank. Many perish from hardship en route. Those who reach Gangotri sprinkle themselves with sacred water taken by a Brahman priest from the Ganges's source.

Ganges water effects its purification for pilgrims far removed from the river's shores. Vast throngs bathe in a holy tank at Kumbakonam, 1,200 miles from the Ganges in southern India, at a festival held every twelve years. They believe that then, and then only, water flows to the tank from the Ganges by subterranean stream.

References—India is shown on the Society's map of Southwest Asia.

For further information, see "India's Sculptured Temple Caves," in *The National Geographic Magazine*, May, 1953; "Delhi, Capital of a New Dominion," November, 1947; "India Mosaic," "India's Treasures Helped the Allies," and "South of Khyber Pass," April, 1946; and "India—Yesterday, Today, and Tomorrow," October, 1943.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, December 7, 1953, "India Strives for a Single Language"; "New Capital City Rises in India's Punjab," November 2, 1953; and "Skilled Workmen Repair India's Taj Mahal," January 19, 1953.

UMI

MAYNARD OWEN WILLIAMS

Purge Time at Allahabad—Indian spiritual leaders, resplendent on elephants, move with penitent masses to sacred sands where the Ganges and Jumna unite. They come to bathe sins away at Kumbh Mela, festival held there every 12 years (1930, 1942, 1954, 1966) when Jupiter and the Sun meet under the sign of Aquarius (Kumbh).

Bulletin No. 3, March 22, 1954

Ganges River Cleanses Hindu Souls

Rising on snow-clad Himalayan slopes west of 25,447-foot Mount Kamet, the Ganges River courses 1,560 miles southeast across India. It pours its waters across the flat lands of the complex Ganges-Brahmaputra Delta and finds the Bay of Bengal through a hundred mouths.

During the four-month flood season, June to September, the river's flow averages eight times as much as during the rest of the year. In these flood months it carries several hundred thousand tons of silt a day to enrich the delta soil and make it India's most bountiful grain land.

But for India's 300,000,000 faithful Hindus the Ganges performs another vital service. It flows from heaven and nourishes the spirit.

Goal of Pilgrimages—According to the Hindu creed, pilgrims cleanse their souls of sin when they bathe in and drink of the Ganges. "As long as the bones of a man touch Ganga water, so long is that man magnified in heaven. No place of pilgrimage is better than the Ganga."

To its shores flock Hindus of many castes and stations—rajahs and princes, warriors and merchants, farmers and laborers. Water dipped from the sacred river is carried to all India, to be sprinkled on the newly born, the newly married, and the dying.

cruised both coasts of South America, the warm waters of the Spanish Main, and the coast of Africa.

In 1917 her name was modified to *Old Constellation* so that a modern battle cruiser to be built could take the famous name. The new ship was scrapped before completion owing to the treaty limiting naval armaments, and the venerable wooden vessel resumed her original name.

In 1940, the *Constellation* was recommissioned. A few months later she was assigned as flagship of the Commander-in-Chief of the United States Atlantic Fleet, in order to release a more modern ship for sea duty. She continued to serve as flagship to succeeding commands until January 15, 1945, when she was placed in reduced commission with but a limited crew to maintain her as a historic relic.

Her masts are gone, her lines changed from repairs and rebuilding, her hull worm-ridden and held together by supporting timbers and a veritable cat's cradle of steel-cable lacings. Today it is the *Constellation*, not her rejuvenated sister, Old Ironsides, that flies a "tattered ensign."

References—For additional information about ships, and historic shrines and landmarks, see "Down East Cruise," in *The National Geographic Magazine*, September, 1952; "Windjamming Around New England," August, 1950; "Shrines of Each Patriot's Devotion," January, 1949; and "Ships, from Dugouts to Dreadnoughts," January, 1938.

Navy's Oldest Fighting Ships—Visitors to Boston's Charlestown Navy Yard flock to admire the shipshape *Constitution* (Old Ironsides, at right), overlook the crumbling *Constellation* (left). Both frigates, launched in 1797, have been largely rebuilt since the early-19th-century days of their valiant fighting.

NATIONAL GEOGRAPHIC PHOTOGRAPHER ROBERT F. SISSON

Bulletin No. 4, March 22, 1954

Marylanders Would Preserve *Constellation*

"Aye, tear her tattered ensign down!" wrote Oliver Wendell Holmes at Harvard in 1830. The children of the country, responding to the theme of his immortal poem, "Old Ironsides," gave their pennies in the 1920's to preserve the wooden frigate *Constitution.*

Today the *Constitution,* 157 years old, floats proudly in Boston Harbor, a well-cared-for floating museum and patriotic shrine. Yet few who board "Old Ironsides" to inspect her rugged timbers, towering masts, and cramped quarters for officers and crew, cast more than a passing glance at her sister hard by.

Guns Punctuated History—Floating beside the *Constitution* lies what survives of the only older American naval vessel. She is the *Constellation,* mastless and poorly preserved, senior frigate by six weeks. She is so largely rebuilt that, at most, only a few of her original timbers remain. The guns of this pair supplied much of the punctuation for the pages of the Nation's early history.

Outmoded fighting ships are expensive to repair and maintain, and the Navy thinks it can ill afford to be sentimental about the *Constellation.* Routine orders call for her junking. But Marylanders feel differently about the Navy's oldest ship because she was built in the Baltimore shipyard of Samuel and Joseph Sterrett. Old Liners lead the fight to save her.

Don't Give Up the Ship—Early this month Marylanders filed with Congress their latest plea for the life of the *Constellation.* Though not prepared to finance restoration, they want her to live on. They hope that the vessel can be made seaworthy enough to tow from Boston to Baltimore. There, at Fort McHenry, home of "The Star-Spangled Banner," she could be preserved, possibly ashore in a concrete foundation.

The venerable pair were two of six frigates authorized by Act of Congress on March 27, 1794. Only three were completed. The *United States,* launched at Philadelphia on May 10, 1797, was broken up and disposed of in 1866. The *Constellation* slid down the ways at Baltimore on September 7, 1797. The *Constitution* was launched at Boston on October 21.

Preceded Navy Department—The trio composed the Navy of the new nation, protecting its commerce and coasts. Their construction was started under the supervision of the Secretary of War. They gave substance to the new Navy Department when it was created April 30, 1798.

The *Constellation,* built of live oak, cypress, and pine brought from various parts of the country, cost $314,200. To restore her to full seaworthiness would cost more than $3,000,000. With an extreme beam of 42 feet, she is 176 feet long at the water line. Her initial displacement was 1,278 tons—about half that of one of the smaller World War II destroyers. Her armament consisted of twenty-eight 24-pounders on her gun deck and ten 12-pounders on her spar deck, just above.

The distinguished career of the *Constellation* took her several times into Mediterranean waters where, with other American ships, she halted the piracy of the Barbary States. In the War of 1812, the British felt the blast of her guns as she drove them from American shores. Later she

inadequate links with the mainland, and lack of doctors were other reasons.

There are roughly 500 isles and islets in the Hebrides, 100 of which are inhabited. Soay is the second to be abandoned in recent years, and several others have been offered for sale. In August, 1930, the 35 residents of St. Kilda in the Outer Hebrides moved to Lochaline on the Scottish mainland. Today only wild sheep and sea fowl make their permanent homes on the bleak little outlying dot beyond which the North Atlantic rolls toward Labrador.

Soay is more fortunate than St. Kilda. A Newfoundland fisherman has bought the island and set up housekeeping there with his English wife and their small son. He plans to offer shark fishing as a sport for tourists, and hopes that other English families will join him.

Deserted by Lobsters—The decline of the lobster catch was peculiar to Soay, but other problems are common to all the Western Isles, whose population has been dwindling steadily. In 1936, Soay had 70 homesteaders. On Skye, largest of the Inner Hebrides, there are fewer than 9,000 people, where 23,000 dwelt a century ago. There is a saying that today Skye's main export is young people.

The rocky moors of the Hebrides are rich in rugged, spectacular scenery, but poor in fertile farmland. The soil is scanty and hard to drain. Trees are few and pasture land is scrubby. Most of the islanders are crofters—tenant farmers (illustration, cover) who rent a few acres of land. Fishing, cattle raising, and weaving are island industries. Harris tweed, taking its name from an island in the Outer Hebrides, has brought fame to the island and a living to many of its residents.

The climate is wet, with frequent gales and fogs. The chief tourist attractions are salmon and sea-trout fishing, and rock climbing. Skye's Cuillin range is the barest and most precipitous of British mountains. Its jagged pinnacles look like miniature Alps, although the highest peak, Sgurr Alasdair, rises only 3,309 feet above the sea.

Viking Relics—The Hebrides are a living museum of Britain's ancient history. A metal arm band found in a peat bog, ruins of ancient stone buildings, and standing-stones resembling those at Stonehenge indicate that the islands were inhabited a thousand years ago.

On the "holy island" of Iona, to which St. Columba brought Christianity from Ireland, A. D. 563, stands a 13th-century cathedral.

On the same little island are the tombs of 48 Scottish kings including that of Kenneth MacAlpin, first monarch of the United Kingdom of the Picts and Scots. The MacAlpin was buried there in 860, and in 1040 Duncan I was brought there for burial after his murder by Macbeth. Shakespeare's play made the latter event more familiar than most royal slayings of early days.

Traces of the Norse control of the islands from the eighth century to 1266 remain in many place names. The islanders are a mixture of the Nordic and the darker Celtic types. Gaelic, the old language of the Highlands, is still spoken in the Hebrides.

References—The Hebrides are shown on the Society's map of The British Isles. See also, in *The National Geographic Magazine*, July, 1952, "Over the Sea to Scotland's Skye"; "Hunting Folk Songs in the Hebrides," February, 1947; and, in the GEOGRAPHIC SCHOOL BULLETINS, April 7, 1952, "Scotland's Isle of Skye to Hold Reunion."

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VIOLET BANKS

Harris Tweed Wool on the Hoof—Hardy blackface sheep of South Uist, Outer Hebrides, await dip bath required three times yearly by law. Sheep dog holds them in close group. Most of their fine wool will be spun into yarn on kitchen spinning wheels, then hand-loomed into handsome tweeds.

Bulletin No. 5, March 22, 1954

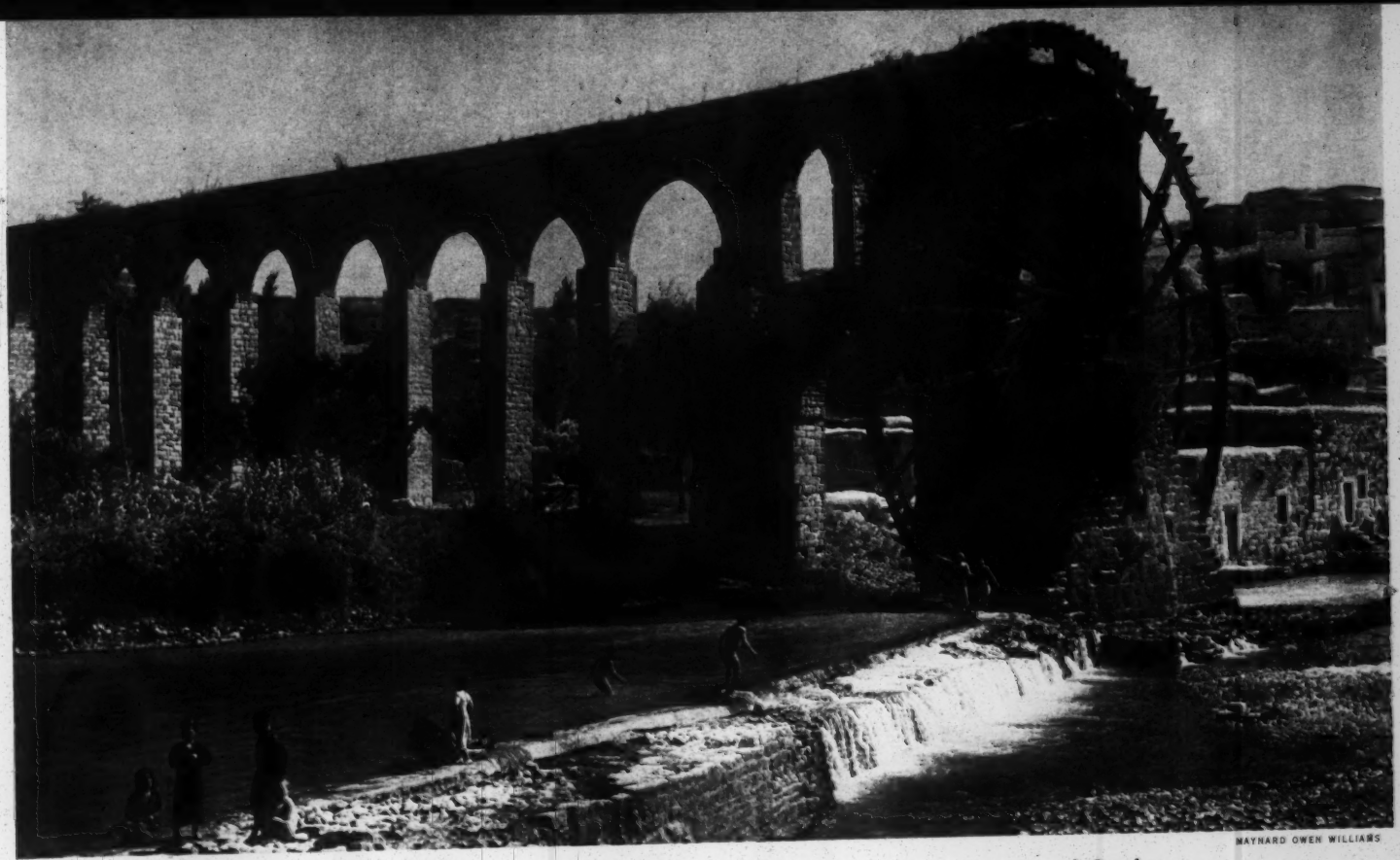
Scots Abandon Hebrides Island Homes

Scotland's Western Isles have reversed the old Highland cry—"The Campbells Are Coming!"

From the little island of Soay, off the south coast of more famous Skye, in the Inner Hebrides, the Campbells have gone. And so have other families bearing such representative Scottish names as MacDonald, MacRae, and Cameron.

Bag and baggage, all household gear from kitchen linoleum to the Victorian sofa, has been shipped south 40 miles across the Sound of Sleat. The entire population of Soay (27) has migrated to Craignure on the larger island of Mull.

The decline of Soay's lobster fishing—once an important source of support—prompted the residents to forsake their homeland. Poor soil,



MAYNARD OWEN WILLIAMS

(SEE BULLETIN NO. 1)

Hama, Syria, Is Famous for Great, Groaning Wheels That Water Its Homes and Gardens

Flow of the Orontes River turns this largest of Hama wheels. It lifts water 70 feet into the stone-arch aqueduct, supplying the bathing pool of a mosque. Syrian boys sometimes take a Ferris-wheel ride. Many such wheels, each with a distinctive groan, make dry soil bloom.